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10/002,382	10/20/2001	Louis I. Memran	765	2795

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Melvin K Silverman & Associates PC
4901 North Federal Highway Suite 440
Fort Lauderdale, FL 33308

EXAMINER

JACOBSON, TONY M

ART UNIT PAPER NUMBER

2644

DATE MAILED: 12/12/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/002,382

Applicant(s)

MEMRAN, LOUIS I.

Examiner

Tony M. Jacobson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "14" has been used to designate both the plate resistor and cathode resistor in the circuits of Figs. 1-4 and reference character "16" has been used to designate both the inverted output coupling capacitor and the non-inverted output coupling capacitor in Figs. 1-4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: Applicant's attention is called to a possible typographical error at page 6, lines 21-22 of the specification ("two or more tube circuits could be placed on combination each tube card 2 to accommodate stereo").

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reference V (Usenet newsgroup posting by Carlson) in view of Reference X (Usenet newsgroup posting by "Carl") and Reeves (US 4,447,866).

5. Regarding claims 1 and 5, Carlson discloses, generally, a sound card for use with computer audio circuitry; a tube circuit with at least one vacuum tube (inherently), having an input and an output (inherently); and an analog output signal from the sound card (inherently), which inherently is the analog output of a sound chip, being input into (connected to an input of) the at least one vacuum tube, said output of the at least one vacuum tube being connected to an external device (a loudspeaker or equivalent device, inherently). Carlson does not disclose that the sound card is a "tube card", nor a DC-to-DC converter supplying high voltage to the vacuum tube. Reference X ("Carl") discloses a computer sound card comprising a vacuum tube (a "tube card"). Reeves discloses an improvement to a DC-to-DC converter, in which disclosure reference is made to the familiar use of switched power supplies (DC-to-DC converters) in

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converting the low voltage sources typically available in vehicles to high-voltage DC sources necessary for operating vacuum tube circuitry in automobile radios (column 1, lines 20-30). The use of DC-to-DC converters for converting a given available DC voltage to a higher or lower DC voltage required by certain circuit elements is notoriously well known in the electronics arts, in a wide variety of applications. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to combine the vacuum tube circuit and sound card of Carlson into a single unit as a tube sound card, according to the teachings of Reference X, utilizing a DC-to-DC converter in the sound card to convert the voltage level of one of the available DC sources within the computer to a high-voltage source for operating the tube circuitry, according to the teachings of Reeves, in order to make an apparatus that is more simple and compact and makes use of an available source of power, eliminating the need for a separate power source.

6. Regarding claims 2 and 7, Official notice is taken that it was well known in the art of vacuum tube circuit design at the time the present invention was made to utilize available voltage sources for powering the cathode heaters of vacuum tubes, selecting the tube type according to the voltage levels that are available. Also, computers typically have power sources with voltage levels equal to the required cathode heater voltages of many common vacuum tubes (such as 12-volts, corresponding to the well-known 12AX7, 12AU7, and 12AT7 vacuum tubes to mention a few). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to

supply power to a heater of a vacuum tube from a computer power supply in order to eliminate the need for separately generating a special voltage source for the vacuum tube, thus simplifying the apparatus.

7. Regarding claim 6, Official notice is taken that at the time the present invention was made, computer sound cards typically had a digital input/output connected to the motherboard of a computer through a bus such as an ISA bus or a PCI bus. The sound card of Carlson, modified according to the teachings of Reference X and Reeves inherently comprises such a digital input/output.

8. Claims 3, 4, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reference W (Usenet newsgroup posting by "Riffster") in view of Reference X (Usenet newsgroup posting by "Carl") and Reeves (US 4,447,866).

9. Regarding claims 3 and 8, Reference W ("Riffster") discloses, generally, a sound card for use with computer audio circuitry; a tube circuit with at least one vacuum tube, having an input and an output ("tube guitar mic pre"); and an analog input of the sound card (inherently), which inherently is the analog input of a sound chip, being coupled to an audio input device through the at least one vacuum tube, an electrical signal from the audio input device being amplified by the at least one vacuum tube. Reference W does not disclose that the sound card is a "tube card", nor a DC-to-DC converter supplying high voltage to the vacuum tube. Reference X ("Carl") discloses a computer sound card

comprising a vacuum tube (a "tube card"). Reeves discloses an improvement to a DC-to-DC converter, in which reference is made to the familiar use of switched power supplies (DC-to-DC converters) in converting the low voltage sources typically available in vehicles to high-voltage DC sources necessary for operating vacuum tube circuitry in automobile radios (column 1, lines 20-30). The use of DC-to-DC converters for converting a given available DC voltage to a higher or lower DC voltage required by circuit elements is notoriously well known in the electronics arts, in a wide variety of applications. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to combine the vacuum tube circuit and sound card of Reference W into a single unit as a tube sound card, according to the teachings of Reference X, utilizing a DC-to-DC converter in the sound card to convert the voltage level of one of the available DC sources within the computer to a high voltage for operating the tube circuitry, according to the teachings of Reeves, in order to make an apparatus that is more compact and simple and makes use of an available source of power, eliminating the need for a separate power source.

10. Regarding claims 4 and 10, Official notice is taken that it was well known in the art of vacuum tube circuit design at the time the present invention was made to make use of available voltage sources for powering the cathode heaters of vacuum tubes, selecting the tube type according to the voltage levels that are available. Also computers typically have power sources with voltage levels equal to the required cathode heater voltages of many common vacuum tubes (such as 12-volts,

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corresponding to the well-known 12AX7, 12AU7, and 12AT7 vacuum tubes to mention a few). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to supply power to a heater of a vacuum tube from a computer power supply in order to eliminate the need for separately generating a special voltage source for the vacuum tube, thus simplifying the apparatus.

11. Regarding claim 9, Official notice is taken that at the time the present invention was made, computer sound cards typically had a digital input/output connected to the motherboard of a computer through a bus such as an ISA bus or a PCI bus. The sound card of Reference W, modified according to the teachings of Reference X and Reeves inherently comprises such a digital input/output.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. LaMarra et al. (US 6,376,761) discloses a modular musical instrument amplification system having interchangeable modules including vacuum tube amplifier stages, analog and/or digital solid-state amplifier stages, and analog or digital signal processing units.

14. Butler (US 5,705,950) discloses a hybrid solid-state/vacuum-tube audio amplifier circuit in several various embodiments.

15. Mieda et al. (US 6,229,387) discloses another audio amplifier combining solid-state elements with vacuum tubes.

16. Goldsmith (US 2,138,598) discloses an automobile radio utilizing a DC-to-DC converter (11) to convert the available DC voltage source of the vehicle to a high DC voltage source suitable for operating the vacuum tube circuits of the radio.

17. Sugano (JP 09307386 A) discloses a vacuum tube amplifier that is controlled by a computer.

18. Reference U (DigiTech RP-7 Valve Press Release) discloses a computer audio circuit comprising a single vacuum tube.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony M. Jacobson whose telephone number is (703) 305-5532. The examiner can normally be reached on Mon. -Fri. 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

tmj
December 5, 2003

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XU MEI
PRIMARY EXAMINER